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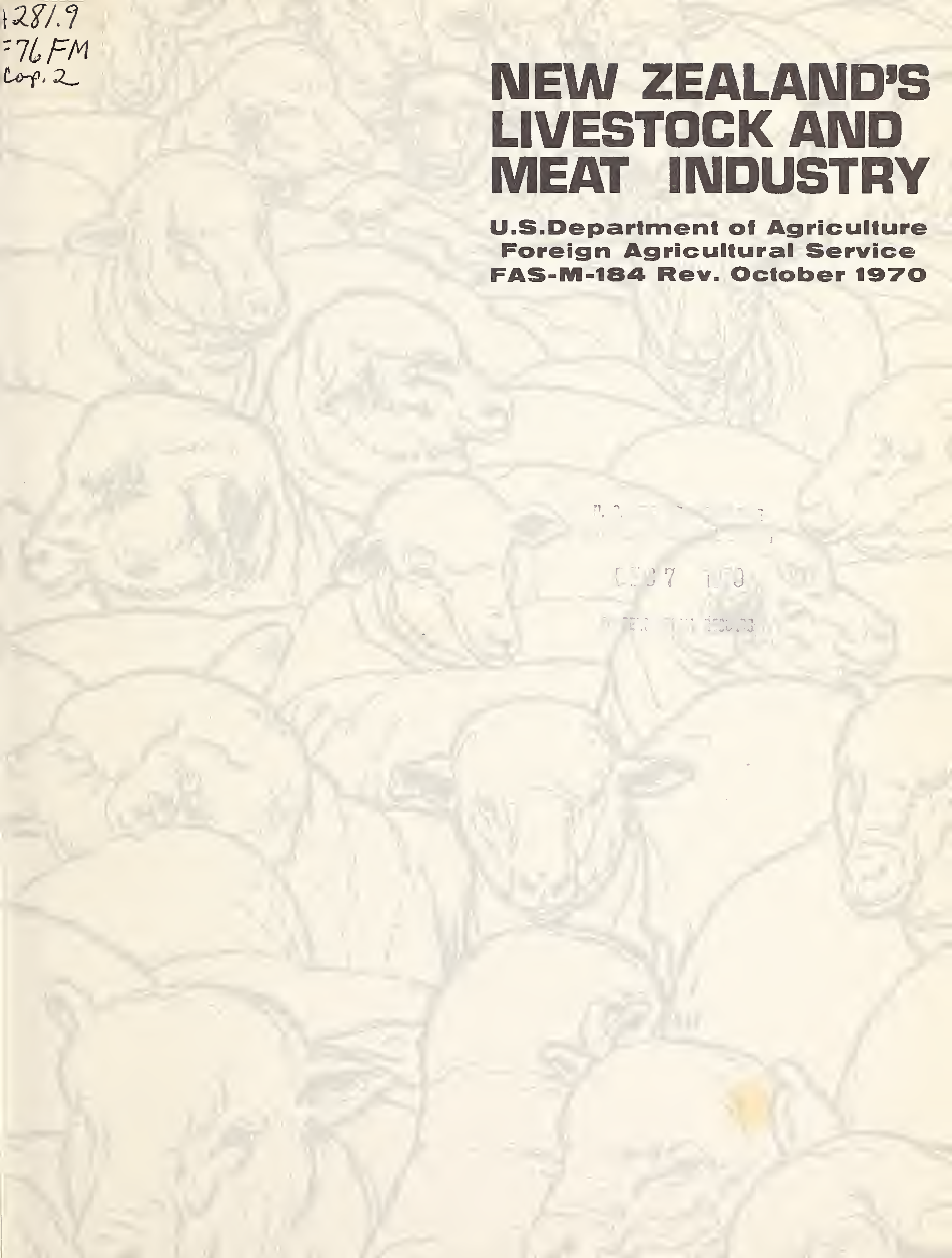

NEW ZEALAND'S LIVESTOCK AND MEAT INDUSTRY

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FOREWORD

New Zealand is one of the world's major producers of livestock and meat products, and the second largest exporter of meat to the United States. It is also the second largest world supplier of wool, providing about one-sixth of the total world trade. Its climate and grasslands uniquely fit it to produce livestock and animal products, and a large part of this production enters international trade.

This study is one of a series designed to help keep people in the livestock industry, and in government, informed of developments in countries that export livestock and meat products. In the past several years, similar studies have been made in Australia, Canada, Mexico, Central America, Argentina, Uruguay, Ireland, and Denmark. This study supersedes New Zealand's Livestock and Meat Industry, FAS-M-184, May 1967.

During his visit to New Zealand, the author received the assistance of many persons working in the fields of livestock production and marketing. He wishes to acknowledge with thanks the cooperation and assistance given him by New Zealand's industry and government representatives, as well as by the U.S. Agricultural Attaché and his staff.

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NEW ZEALAND'S LIVESTOCK AND MEAT INDUSTRY

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INTRODUCTION

New Zealand has been able to take advantage of a number of unique natural features which largely determine its agricultural production and practices. Dominated by animal production, agriculture in New Zealand is most influenced by a temperate climate and moderate rainfall which are highly favorable for the growth of grasslands.

These natural advantages, combined with careful management and development of pastures, have enabled New Zealand to support more than 60 million sheep, 8 million cattle, and 600,000 horses. With two-thirds of the land utilized for agriculture too steep to be cultivated, livestock raising takes precedence over crop production.

Stretching over 1,000 miles into the South Pacific, New Zealand is comprised mainly of North Island and South Island (encompassing over 44,000 square miles and 58,000 square miles, respectively) which are situated about 1,000 miles east of Australia. It has one of the most advanced agricultural economies in the world and ranks with leading agricultural countries in output per agricultural worker.

In its dependence on both exports and imports—because raw materials and semi-finished goods must be imported with export earnings—the New Zealand economy rests greatly on trade with the United Kingdom. Prior to 1958, New Zealand's Commonwealth preference ties included commitments to ship a major portion of its meat exports to the United Kingdom. These commitments were removed in 1958, and exports of beef and veal to the United States increased sharply between 1958 and 1963. In 1969, the United Kingdom was the largest market for New Zealand's meat exports, followed by the United States and Japan.

IMPORTANCE OF THE LIVESTOCK INDUSTRY

Income

Of New Zealand's 2.8 million population, 126,000 individuals (4.5 percent) are engaged in farming. Gross farm income, however, accounted for 22 percent, and net farm income 9 percent of the gross national product (GNP) during the past 5 years. Approximately 50 percent of the gross farm income (11 percent of the GNP) is derived from livestock and animal products, excluding milk products.

New Zealand's total export receipts for the year ending June 30, 1969, amounted to US$1,106 million, of which the livestock industry contributed $1,035 million (93.6 percent). Livestock and animal products, excluding dairy products, accounted for about 66.6 percent of the total export receipts. New Zealand exports 95 percent of its wool production, 93 percent of its lamb, 52 percent of its mutton, 55 percent of its beef and veal, 3 percent of its pig meat, and over 70 percent of its offals.

Gross National Product, total and per capita, 1964-69
(Year ending March 31)

Year ending March 31	Gross National Product	
	Total	Per capita
	Million U.S. dollars[1]	*U.S. dollars*[1]
1964	4,474	1,710
1965	4,882	1,833
1966	5,242	1,933
1967	5,512	2,007
1968	4,516	1,627
1969	4,862	1,731

[1] U.S. dollars at current prices.

Land

Of New Zealand's total area of 66 million acres, more than half is utilized in some form of livestock operation. The breakdown of land utilization is as follows:

Utilization	*Acres*
Extensive sheep farming (wool production)	8,200.000
Semi-extensive sheep farming (wool and store sheep)	14,000,000
Intensive sheep farming (fat lamb production)	4,500,000
Dairying and fat lamb production	5,000,000
Dairying	1,500,000
Intensive sheep farming and cash cropping	3,000,000
Orchards and market gardens	35,000
Indigenous forests (including parkland)	15,000,000
Exotic forests (including parkland)	900,000
Undeveloped land (including nonagricultural areas)	14,500,000

It is important to note that beef cattle generally are raised on sheep farms. Also, dairy farmers produce beef from dairy stock and by breeding dairy cows with beef bulls.

The trend in New Zealand livestock production in recent years has been towards larger units. This has been accomplished largely through consolidating family-owned operations and increasing the carrying capacity of existing properties by fertilizing and reseeding and by improving management practices. Most of the remaining, limited acreage of new land available for development is located in hilly areas at high elevations and is further removed from population centers.

According to New Zealand's 1960 agriculture census, about 50 percent of the agricultural land was held under freehold title, 42 percent was crownland (including leases and licenses), and 8 percent was held in lease. Although these percentages undoubtedly have changed somewhat since 1960, it is obvious that the Government has, and continues to play, a prominent role in land development and related matters.

The Department of Lands is New Zealand's largest single farm operator. Since 1941, over 3 million acres of Government-owned land has become available to the Department for clearing and developing for ultimate distribution to private operators. In 1969, the Department's farming operations in land development projects encompassed 1.8 million acres, and as of July 1, 1969, supported 1.8 million sheep and 244,000 head of cattle. When the land is developed to an extent that it is profitable to operate, it is offered for private acquisition either by sale or by long-term lease in blocks, predetermined to be of economic size by type of enterprise. The Department's Land Settlement Committee maintains a list of eligible applicants from which new settlers are drawn. During the year ending March 1968, a total of 20 sheep units and 5 dairy units were made available to new settlers.

One of the main objectives of the Government's Land Development Program has been to stabilize and maintain land prices at reasonable levels. During 1968 a modest influx of overseas buyer interest, which threatened to add a speculative spiral to land prices, resulted in the tightening of land acquisition laws to impose restrictions on foreign persons or companies except where the land is to be used for commercial, residential, or industrial purposes. The Government has succeeded in at least delaying the time when high land values will become an actual cost of production. Good land currently is extremely valuable, but many of the present operators acquired their properties at reasonable costs.

Recorded freehold land transfers are indicative of the trend in land values. For the year ending March 31, 1969, there were 7,329 freehold transfers involving 1.2 million acres valued at US$123 per acre. In terms of New Zealand dollars, this represented a 13 percent increase in land prices over a 4-year period and a 98 percent increase in 10 years. These recorded transactions do not necessarily reflect the average prices of all farm land, however. Location, improvements, and productivity of the land determine its value. Pasture improvement programs have contributed substantially to the increase in land values, an increase in farm assets fairly earned by New Zealand farmers. However, these increased values represent higher production costs for the country's future farmers.

Labor

The 1966 census recorded 112,479 male persons engaged in agriculture and livestock production; 41,497 were wage or salary earners and 70,982 were self-employed. In addition, there were 13,689 females employed in agriculture. The total agricultural manpower of 126,168 represented a 1.9 percent decline from the total of 128,678 employed in 1951. During the 1952-66 period, while the farm labor force was declining, livestock units increased by about 40 percent. This is indicative of an increase of about 42 percent in productivity on livestock farms, over a 14-year period.

The number of persons engaged in farming has not changed significantly since 1966, while farm production has continued to increase. This increase in productivity is attributed to advances in scientific knowledge and mechanical and technical innovations. The labor saving devices employed by sheep and dairy farmers are largely responsible for New Zealand's relatively high productivity per worker.

THE SHEEP INDUSTRY

Types of Farms

Sheep raising in New Zealand is diversified, ranging from operations that receive practically all of their income from the sale of wool to specialized fat lamb production. The major types of sheep farms can be described as high country farms, foothill country farms, hard hill country farms, easier hill country farms, fattening farms, mixed cropping and fattening farms, and stud farms.

The high country farms are generally located on South Island and carry only about one sheep to every 4 acres, due to the steep terrain and the low soil fertility. Wool is the main source of income.

The foothill farms, also located on South Island, and run mainly fine wool sheep at a carrying capacity of about one sheep per acre. Sales of wool and sheep (mostly aged ewes) provide the main source of income.

The hard hill country farms are found primarily on North Island, where mainly medium wool sheep are run. The carrying capacity is about two sheep per acre plus cattle (approximately one head to seven or eight sheep).

The easier hill country farms are found on both North and South Islands and run mainly medium wool sheep. They carry about two to three sheep per acre, plus cattle—usually about one head to 10 or 11 sheep. Market animals from these farms include both feeder and fat stock.

The fattening farms are located on both North and South Island on land of high fertility. The carrying capacity on fattening farms ranges from three to six sheep per acre, and some carry a small number of cattle. Most of the farmers produce their own lambs and replacement ewes, but some purchase their replacement ewes as well as some feeder stock. Also, it is a fairly common practice for some farmers to purchase cull ewes late in the season from the high country farms to fatten on surplus pastures for a short period prior to marketing.

The mixed cropping and fattening farms are mainly on the South Island's Canterbury Plains, and a high proportion of the income is derived from grain and small seeds. Livestock and wool usually provide about 50 percent of the income. On farms where soil conditions and terrain are suitable, a steady increase has occurred over recent years in acreages devoted to grain production.

Stud farms, though few in number, are highly specialized and are always located on first class land. Due to the diversity of sheep and wool production, breeding farms are very important to the sheep industry. Merino sheep for fine wool production are bred to produce a hardy animal to withstand the rigorous conditions of the high hill country farms. Romney, Corriedales, and other medium-wool sheep have been bred and selected to produce wool and fat lambs. Generally, Romney, Corriedales or cross-bred ewes are bred to Southdown or Dorset Horn rams to produce fat lambs. New Zealand farmers have achieved a high degree of success in producing lambs of uniform carcass quality.

Financial Aspects

The New Zealand Meat and Wool Boards' Economic Service conducts an annual sheep farm survey. The survey unit is composed of a small number of district officers situated in the main sheep farming areas, and a staff of economists and research workers in the Wellington office. The district officers are specialists in farm surveys, and each is responsible for the collection of data from a group of randomly-selected farms. The data are tabulated and analyzed on the basis of homogenous groups of farms over all of New Zealand.

The financial and physical data collected and analyzed by the Economic Survey Service for the 1966-67 season reveals significant information on sheep farming in New Zealand. The season was not a particularly good one; and a decline in foreign exchange, largely attributed to lower wool prices, resulted in a number of counter measures such as the removal of some farm production subsidies and increases in taxation. There was an appreciable fall in net farm income even though producers' incomes were sustained by a floor price of US$0.36 per pound on wool. The Economic Survey Service data concerns eight sub-groups of farms, four of which will be discussed here.

The four subgroups are high country sheep farms, South Island; intensive fattening farms, South Island; hard hill country farms, North Island; and easier hill country farms, North Island. The high country farms are typical of extensive run, fine wool sheep farms, located at high altitudes. Intensive fattening farms are typical of the high producing grassland farms which normally buy replacement ewes and produce fat lambs. The hard hill country farms carry mainly medium wool sheep, plus a relatively large number of cattle. The easier hill country farms are smaller holdings with good producing grassland. They also run medium wool sheep, plus an appreciable number of cattle. A high proportion of their sale stock is sold in fat condition.

Total production was appreciably more for the extensive run farms, the high country and the hard hill country farms. The relative level of production per man years employed also was higher on the extensive run farms. Production per acre was considerably higher for the intensive fattening farms—71 pounds of wool, plus 110 pounds of mutton, 46 pounds of lamb, and 17 pounds of beef per acre. Obviously, livestock production per acre under intensive farming conditions is what New Zealanders are referring to when they speak of the high level of productivity achieved by their farmers. The high level of production per acre from fat lamb farms represents a remarkable achievement.

The Economic Service makes a general valuation assessment of all survey farms at 5-year intervals to determine values of land, farm buildings, and other improvements. The last general assessment prior to the 1966-67 season was made in June 1964. The valuation of truck and tractor and other plant and machinery are based on the depreciated book values. Livestock is valued by taking the number on hand and applying current market values.

The data for liabilities are taken directly from the farm balance sheets. Capital net worth is a balancing item representing the farmer's net capital position. It is not an exact evaluation of net assets, since the farmer's investments outside the farm are at book value. In most cases this is of minor significance because non-farm investments are low. Also gross and net farm income per farm do not represent the average return to an individual farmer, since the survey covers companies, trusts, partnerships, and estates, as well as individually owned farms.

One of the most interesting aspects of the 1966-67 season's data was that the average net farm income per farm for one group of farms was not greatly different from the others, although total assets and gross income per farm did vary considerably. Both the investment in farm capital and the gross income per farm were higher for the more extensive run farms, the high country and hard hill country farms. But, the costs of operating these farms were considerably higher than for the intensive run farms.

The distribution of net farm income by farm groups reflects the fact that 1966-67 was not a good year for New Zealand sheep farmers. Direct taxation and personal expenditures for most farms exceeded net income by an appreciable amount. Thus, farmers who were heavily encumbered by debts suffered considerable financial losses.

Sheep farms: physical and production data, 1966-67

Item		South Island		North Island	
		High country farms	Intensive fattening farms	Hard hill country farms	Easier hill country farms
Farms in survey	number	28	65	57	131
Acres per farm	number	27,967	396	2,365	895
Effective acreage per farm	number	27,729	357	1,889	797
Livestock:					
Sheep (July 1, 1966)	number	6,992	1,803	3,438	2,424
Sheep (June 30, 1967)	number	7,208	1,850	3,733	2,612
Cattle (July 1, 1966)	number	138	28	434	202
Cattle (June 30, 1967)	number	161	29	469	224
Stock equivalents:					
Ewes (July 1, 1966)	number	6,167	1,719	3,184	2,272
Cattle (July 1, 1966)	number	110	21	356	169
Total in terms of ewe equivalents (July 1, 1966)	number	6,717	1,824	4,964	3,117
Production:					
Wool:					
Total	pounds	65,231	25,476	39,871	30,155
Per effective acre	pounds	2.4	71	21	38
Lamb:					
Total	pounds	14,086	39,132	20,970	22,158
Per effective acre	pounds	0.5	110	11	28
Mutton:					
Total	pounds	50,498	16,475	43,929	30,183
Per effective acre	pounds	1.8	46	23	38
Beef:					
Total	pounds	17,921	5,994	55,648	28,352
Per effective acre	pounds	0.7	17	30	35

Source: New Zealand Meat and Wool Board, *Sheep Farm Survey, 1966-67*, November 1968.

When compared with the previous 3 years, the net farm income for each of the four subgroups declined substantially during 1966-67. The net farm income for the high country farms was 44 percent below the previous 3 years, compared with a decline of 39 percent for the intensive fattening farms, 40 percent for the hard hill country farms, and 38 percent for the easier hill country farms. This reflects sharp declines in gross income, which could not be offset by reduced expenditures.

Another interesting point which can be assumed from the 1966-67 data is that beef cattle appeared to be as profitable, if not more so, than sheep. For example, the average hard hill country farm on North Island had 3,184 sheep in terms of ewe equivalent, and 1,780 cattle in terms of ewe equivalent as of July 1, 1966 (one cattle unit equals 5 ewes). The gross income from the sheep and wool account was US$21,747, or $6.83 per ewe equivalent. The gross returns from the cattle account were $10,801, or $6.08 per ewe equivalent. When an allowance is made for the difference in labor costs in handling sheep versus cattle, as well as inventory changes in livestock numbers, the difference in profitability likely would not be significant. Cattle prices have improved relatively more than sheep and wool prices since 1967, and the prospects for beef are more promising. Undoubtedly, New Zealand livestock producers will continue to direct more of their resources to beef production.

The return on total farm capital, assuming owner-operated unencumbered farms, ranged from 2.7 percent for the hard hill country farms to 4.1 percent for the easier hill country farms. During the 3 preceding years, the average return ranged from 5.4 percent for the intensive fattening farms to 6.4 percent for the easier hill country farms.

The relatively high capital turnover ratios seem to indicate that sheep represented a good investment even in 1966-67, but the return on total farm capital and the labor and management residual both contradict this conclusion. Another obvious conclusion is that total farm capital was understated in the previous general assessment in 1964. With revisions that incorporated current market values for all farm property, both the percentage returns on capital and the residual to labor and management would have been less favorable.

Costs and returns for sheep farms, 1966-67

Item	South Island		North Island	
	High country farms	Intensive fattening farms	Hard hill country farms	Easier hill country farms
Assets:	*U.S. dols.*	*U.S. dols.*	*U.S. dols.*	*U.S. dols.*
Land as freehold	70,944	36,676	21,830	22,709
Farm buildings and improvements, excluding homestead	41,285	43,229	58,691	45,853
Machinery and equipment	6,798	6,276	3,929	2,964
Livestock:				
Sheep	46,011	20,204	29,271	20,475
Cattle	8,106	2,101	27,594	13,776
Subtotal	173,144	108,486	141,315	105,777
Cash and other investments	12,699	9,333	10,875	9,513
Homestead	11,452	9,972	7,281	8,883
Other, including car	8,764	5,720	5,638	4,171
Subtotal	32,915	25,025	23,814	22,567
Total assets	206,059	133,511	165,129	128,344
Liabilities:				
Fixed	38,499	25,581	27,003	31,707
Current	7,760	6,665	10,123	6,036
Subtotal	46,259	32,246	37,126	37,743
Specific reserves	2,299	91	1,809	658
Total liabilities	48,558	32,337	38,935	38,401
Capital net worth	157,501	101,174	126,194	89,943
Expenses:				
Working expenses	24,220	10,150	20,847	12,407
Standing charges	6,865	2,596	4,612	3,164
Total cash expenses	31,085	12,746	25,459	15,571
Depreciation	2,008	1,776	1,620	1,184
Total cash expenses and depreciation	33,093	14,522	27,079	16,755
Income:				
Wool account	29,070	7,458	13,943	9,912
Sheep and lamb account	6,769	8,875	7,804	7,612
Cattle account	3,322	1,097	10,801	5,029
Other accounts	610	2,919	337	243
Total gross income	39,771	20,349	32,435	22,796
Net farm income	6,678	5,827	5,356	6,041
Income equalization, deposit- withdrawal+	+150	+28	-231	-29
Adjusted net income	6,828	5,855	5,125	6,012
Distribution of adjusted net income:				
Personal drawing	5,701	5,720	7,231	5,589
Direct taxation	3,361	1,123	1,296	1,924
Savings	-2,234	-988	-3,402	-1,501

Source: New Zealand Meat and Wool Board, *Sheep Farm Survey, 1966-67*, November 1968.

In terms of New Zealand dollars, the financial position of New Zealand sheep farms improved during 1967-68. Gross farm income for each of the 4 sub-groups was approximately the same as in 1966-67. Farmers continued their efforts to reduce production expenditures. As a result, net farm income increased and by curtailing personal expenditures, the average farm in each group, except the high country farms, recorded some savings. The return on farm capital ranged from 3.2 percent for the high country farms to 4.8 percent for the easier hill country farms.

The significant point is that the task of earning a living from farming in New Zealand, just as it applies to most of the rest of the world, would be a formidable challenge for anyone other than an ardent farmer.

Undoubtedly, many of the company and partnership holdings exist primarily because of the potential, long-term capital gains. The farmer with a substantial equity in farm holdings has an equal chance for long-term

Sheep farms: Returns on capital, capital turnover ratio, and labor and management residual, 1966-67

Item	South Island		North Island	
	High country farms	Intensive fattening farms	Hard hill country farms	Easier hill country farms
Return on capital:	*U.S. dols.*	*U.S. dols.*	*U.S. dols.*	*U.S. dols.*
Working expenses	24,220	10,150	20,847	12,407
Assessed managerial rewards	4,999	3,921	4,434	3,718
Total adjusted working expenses	29,219	14,071	25,281	16,125
Farm capital[1]	173,144	108,486	141,315	105,777
Working capital[2]	14,610	7,036	12,640	8,063
Total farm capital[3]	187,754	115,522	153,955	113,840
Net farm income	6,828	5,855	5,125	6,011
Managerial salaries	1,051	67	1,305	438
Interest paid	2,261	1,684	2,165	1,733
Rent paid	1,267	125	432	244
Net income to capital and management[4]	11,407	7,731	8,628	8,426
Assessed managerial rewards	4,999	3,921	4,434	3,718
Net returns on total farm capital	6,408	3,810	4,194	4,708
Percentage return on total farm capital	3.4	3.3	2.7	4.14
Capital turnover ratio:				
Gross farm income, minus costs of noncapital inputs	39,771	20,349	32,435	22,796
Total farm capital	187,754	115,522	153,955	113,840
Capital turnover ratio percent	21.2	17.6	21.1	20.02
Labor and management residual:				
Farm capital	173,144	108,486	141,315	105,777
Cash in bank	6,360	3,256	2,637	2,722
Subtotal	179,504	111,742	143,952	108,499
Fixed liabilities	38,499	25,581	27,003	31,707
Current liabilities	7,760	6,665	10,123	6,036
Subtotal	46,259	32,246	37,126	37,743
Net equity capital	133,245	79,496	106,826	70,756
Net farm income	6,828	5,855	5,125	6,012
Managerial salaries	1,051	67	1,305	438
Net farm income + managerial salaries	7,879	5,922	6,430	6,450
Interest at 6 percent on equity capital	7,995	4,770	6,410	4,245
Returns to labor and management	-116	1,152	20	2,205

[1] Excludes homestead and car. [2] Most farmers operate on credit for about 50 percent of working expenses and managerial rewards; the other 50 percent is provided by the farmer as working capital. [3] Farm capital plus allowance for working capital. [4] Assuming owner-operated farm, freehold, and unencumbered.

Source: New Zealand Meat and Wool Board, *Sheep Farm Survey 1966-67*, November 1968.

capital gains; while the less fortunate farmer, encumbered with excessive debts, has little to gain from limited capital and often will find the residual to labor and management for a year's work unrewarding.

The net equity capital of the average sheep farmer included in the Economic Service Survey during 1966-67 was substantial. The average net equity capital was equivalent to about 70 percent for the hill country farms, the intensive fattening farms, and the hard hill country farms. The net equity capital averaged 62 percent of the total farm capital for the easier hill country farms. Therefore, it would appear that the average sheep farmer included in the survey was in a relatively good position with reference to investments for capital gains. However, the average farm equity capital might be somewhat different if all of the holdings, except the owner-operated farms, were excluded.

OTHER LIVESTOCK INDUSTRIES

Beef Cattle

There are very few complete beef cattle ranches in New Zealand since most beef production is associated with either sheep farming or dairying.

The most popular beef breeds are Aberdeen Angus, Hereford, and Shorthorn, in that order. The Aberdeen Angus Association has over 500 registered breeders, and the Hereford Association about 200. Other breeds of less importance, in addition to Shorthorn, include the Red Poll and Galloway.

About 85 percent of the beef cattle are located on the North Island; however, beef cattle raising on the South Island has tended to show gains over recent years. The largest number of beef cattle are found on the east coast, north of Gisborne, extending into North Auckland; and in Raglan, Waitomo, and Rangitikei counties.

Cattle on hill country farms are limited, as they are considered secondary to the sheep operation. Although cattle prove useful for pasture control purposes, it is necessary, especially in winter, to make special provisions for them such as more efficient fences and water availability. On hill country, not improved to a stage considered adequate for fattening cattle, it is usual for cows to calve in August or September, and to be bred again in late November or December. The calves are sold as weaners at 8 months for fattening, or carried to the age of 14 to 20 months before being sold for fattening.

The sheep farms, in addition to carrying a few head of cattle, often purchase feeder cattle as well as store sheep. This enables them to make better seasonal use of their pastures. They purchase both beef cattle and crossbred as well as other beef-type animals, such as Friesian dairy calves for fattening or later selling as feeder stock to fattening farms.

Hogs

Practically all of New Zealand's hogs are raised on dairy farms. Skim milk and whey provide a large part of the ingredients in hog feeds, except in areas where hotel and restaurant garbage is collected and used to a considerable degree. In recent years, however, more profitable outlets than animal feeds have been developed for skim milk and as a result, hog production has been adversely affected.

Hog production, which accounts for about 5 percent of the total meat production, is likely to continue as a minor enterprise. New Zealand farming is based on one family grassland units; and successful hog farming would require extra labor, experience, and capital. One of the deterrents to hog production, with the diversion of skim milk to more profitable outlets, is the high cost of feedgrains. With price increases for pork brought about by shortages, larger and more efficient production units will have a better chance of profitable operation.

PRODUCTION

Sheep and Lambs

The number of sheep in New Zealand totaled 59.9 million in 1969, compared with 60.5 million in 1968, and 51.3 million in 1964. The increase in numbers between 1966 and 1967 was the largest annual increase on record. The relatively small increase in 1968, and the slight decline in 1969 were due primarily to lower wool prices. Farmers who derived most of their income from wool suffered a substantial reduction in income during the 1966-67 selling season.

Over the past 10 years, New Zealand's wool production has increased from about 540 million pounds to 740 million, more than 35 percent. Most of the increase resulted from the increase in sheep numbers, but with more emphasis on fat lamb, average fleece weights increased and the percentage of fine wools declined. In 1968, only 15 percent of the clip was finer than 52's.

The price difference between fine wools and coarse wools has widened considerably over the past 5 years. However, most sheep farmers continue to believe that an extra lamb and the additional weight of coarse wools more than offset the relatively low prices received for coarse wools. Consequently, even with prospects for coarse wools continuing to be less favorable than for fine wools, the New Zealand wool clip is likely to remain predominantly coarse wools. Since coarse wools are a "by-product" of the fat lamb industry, and New Zealand exports most of her lamb, the foreign market for lamb will be a contributing factor in determining the trend in wool production.

Sheep and lambs: Number and slaughter, averages 1956-60 and 1961-65, annual 1964-69

Year	Number on farms[1]	Slaughter[2]		
		Sheep	Lambs	Total
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*
Average:				
1956-60	44,535	6,179	16,523	22,702
1961-65	50,535	7,595	21,350	28,945
Annual:				
1964	51,292	7,897	22,157	30,054
1965	53,748	7,567	21,935	29,502
1966	57,343	6,725	22,340	29,065
1967	60,030	3,474	24,158	32,632
1968	60,474	10,150	25,410	36,560
1969[3]	59,937	8,826	26,750	35,757

[1] As of June 30. [2] Year ending Sept. 30. [3] Preliminary.

Cattle and Calves

The trend is towards the production of more beef-type animals from dairy herds. For the year ending September 30, 1968, calf slaughter was estimated at 1.2 million head, compared with 1.4 million for the year ending September 30, 1964. This decline in calf slaughter occurred while dairy cow numbers were increasing from 2.0 million to 2.1 million head. Total calf slaughter regained the 1.4 million level in 1968-69. This suggests that the demand for bobby calves has remained strong.

The supply of dairy calves suitable for fattening for beef production undoubtedly is substantially larger than the actual numbers retained for this purpose as evidenced by the level of calf slaughter. It is estimated that only 150,000 to 200,000 dairy-bred calves were reared for beef during 1968-69. Of the 1.4 million calves slaughtered during 1968-69 (mostly for bobby veal), 500,000 would have been suitable for rearing as beef animals. Increasing numbers of dairy farmers are breeding a larger percentage of their cows to beef-type bulls. It is estimated that the dairy industry currently could supply 700,000 calves annually for rearing as beef animals.

The dairy-beef incentive program designed to divert grass from dairy to meat production is expected to result in more dairy calves being fattened for beef. Dairy farmers are paid a subsidy of US$11.20 per animal and are aided by a liberal loan plan to provide income while the cattle are being fed to market weights.

The total number of cattle and calves has been rising steadily; and in January 1969, reached 8.6 million head, compared with 8.2 million in 1968. This steady increase is attributed to the growing domestic and export demand for beef; while the demand for dairy products–especially the export demand–has declined.

Cattle and calves: Number and slaughter, averages 1956-60 and 1961-65, annual 1964-69

Year	Number on farms[1]	Slaughter[2]		
		Cattle	Calves	Total
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*
Averages:				
1956-60	5,852	1,014	1,316	2,331
1961-65	6,646	1,185	1,349	2,534
Annual:				
1964	6,696	1,285	1,392	2,677
1965	6,801	1,138	1,231	2,369
1966	7,214	1,171	1,102	2,273
1967	7,747	1,214	1,219	2,433
1968	8,217	1,495	1,233	2,728
1969[3]	8,605	1,679	1,365	3,033

[1] As of January 31. [2] Year ending September 30. [3] Preliminary.

In recent years, the increase in numbers of beef breeding cows has been proportionally greater than the rise in dairy cow numbers. As of January 31, 1969, beef breeding cows were estimated at 1.5 million head, representing a 50 percent increase over the 1961 inventory number. The comparable increase for dairy cows in milk was only 24 percent–from 1.9 million to 2.4 million.

Hogs

The number of hogs slaughtered for the year ending September 30, 1964, totaled about 1 million head, but the total slaughtered for the year ending September 30, 1967, had declined to 790,000. Hog slaughter increased to 815,000 head in 1968, but declined to 770,000 in 1969.

Hogs: Number and slaughter, averages 1956-60 and 1961-65, annual 1964-69

Year	Number on farms[1]	Slaughter[2]
	1,000 head	*1,000 head*
Average:		
1956-60	654.4	816.2
1961-65	718.8	912.6
Annual:		
1964	771.5	1,002.0
1965	716.0	951.0
1966	666.9	872.0
1967	603.0	790.0
1968	614.2	815.0
1969[3]	562.0	770.0

[1] As of January 31. [2] Year ending September. [3] Preliminary.

Meat Trends

Beef, lamb, and mutton production increased to new record levels in 1969. Total carcass meats were at a record level of 2.2 billion pounds in 1969, compared with 2.1 billion in 1968 and 1.7 billion for the 1961-65 average. The largest increase over the 1961-65 average–a jump of nearly 40 percent–occurred in beef. Lamb, which has made a spectacular gain in the past decade, increased by 22 percent over the 1961-65 average. The comparable increase for mutton was 15 percent.

Pork production became stagnant at a relatively low level in the 1950's. After several years of fluctuating levels of production, in 1967 the output of pork declined below the 1956-60 average. Pork production has not changed significantly since 1967.

Meat production, averages 1956-60 and 1961-65, annual 1964-69[1]

Year	Beef	Veal	Mutton	Lamb	Pork	Total carcass meats	Edible offals
	Mil. lb.	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*
Averages:							
1956-60	513	54	325	528	88	1,508	71
1961-65	554	60	383	655	94	1,746	82
Annual:							
1964	580	63	395	681	103	1,822	87
1965	553	55	380	669	99	1,756	88
1966	594	49	336	699	89	1,767	91
1967	608	57	416	732	81	1,894	102
1968	704	56	476	772	84	2,092	119
1969[2]	771	59	441	800	84	2,153	123

[1] Year ending September 30. [2] Preliminary.

Above, hoggets are driven across the Tasman River on New Zealand's South Island. Sheep farming is highly diversified, ranging from operations based primarily on the sale of wool to specialized fat lamb production.

Above, a herd of Jersey cows in New Zealand's dairy farming country in Auckland Province, North Island. Left, a roundup of cattle on North Island. Most beef cattle production in New Zealand is carried on in connection with sheep farming or dairying.

Per capita consumption of meat has not changed significantly in the past 15 years. The average consumer is eating a little more beef and lamb, but less mutton and pork than formerly. Beef (including veal) and mutton account for about 75 percent of the red meats consumed. New Zealand has traditionally exported the bulk of its lamb, primarily to the United Kingdom, while limited pork supplies have inhibited pork consumption.

New Zealand has the potential to increase meat production substantially in future years. The rate of realizing it, however, will depend to a great extent on the continued implementation of recommendations made under the auspices of the Agricultural Development Conference held in 1963-64.

The objective of this conference was two-fold: To establish targets for farm products in the decade ahead (up to 1972-73); and to suggest ways and means of achieving these goals. The report it adopted indicated that unless corrective measures were taken, the number of livestock units would be far less than the total units needed to meet established production goals. The Committee estimated that 111 million units would be needed by 1972-73, compared with 80 million units on hand as of June 1962. The Committee also concluded that the expected growth rate of 2.3 percent per year would have to be increased to at least 3.5 if this target were to be reached on schedule.

The conference made over 100 recommendations to the Government regarding ways to increase the rate of livestock production, and thus far, many of the recommendations of the Conference have been adopted and implemented with good results.

Livestock numbers in 1968 were approximately 100 million units—close to the target rate. It is estimated that livestock units will have to rise by another 11 percent by 1973 to attain the development conference goal. Over the past 6 years, the overall increase in livestock units has been 25 percent. This increase has been encouraged by a major import liberalization policy concerning equipment and other import needs of the farmer. There has been a large increase in farm investment, in part public financed.

If the current and past trend continues as expected, there appears to be little doubt that New Zealand producers can, and will, reach the established goal of 111 million livestock units (ewe-equivalent-basis) by 1972/73.

Meat: Per capita consumption, averages 1956-60 and 1961-65, annual 1964-69[1]

Year	Beef	Veal	Mutton	Lamb	Pork	Total
Averages:	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*
1956-60	99	6	72	10	32	219
1961-65	98	8	76	17	33	232
Annual:						
1964	97	8	76	18	36	235
1965	102	8	73	16	32	231
1966	101	7	64	18	31	221
1967	102	8	64	22	29	225
1968	99	8	66	22	30	225
1969[2]	102	8	67	20	30	227

[1] Year ending September 30, carcass weight basis. [2] Preliminary.

MARKETING

Livestock Sales

Breeding sheep, feeder lambs, feeder wethers, and feeder cattle, as well as some slaughter animals, usually are sold by auction at local sales yards. Such sales are on a per head basis. Local butchers normally purchase animals to meet their requirements at these sales.

Farmers can market livestock for slaughter in several ways, but the most common practice is to sell to slaughterhouses on a carcass weight and grade basis. The prices are determined each week by the operators at the plants. This price schedule is based on the export value of the meat.

The Meat Export Act, which became law in 1955, sets forth regulations pertaining to establishing floor prices for export meat. Floor prices for the various classes of export meat are announced at the beginning of each season and remain unchanged throughout the season. Whenever the price of any class of meat (as indicated by the weekly schedule of prices) falls below the floor price, a deficiency payment is made on all meats in that class sold during that particular week. Meat exporters add the deficiency payment to the price paid to producers and are later reimbursed for the amount by the Meat Board. The Board obtains the money for the payment from a reserve fund built up by the industry between 1939 and 1954, when export receipts over and above normal costs were paid into the fund rather than directly to the producer.

Minimum prices for basic grades of export meat, North Island, 1966-69

Class of meat to which basic grade relates	Basic grade (North Island)	Minimum price per pound			
		Year ending Sept. 30			
		1966	1967	1968	1969
		U.S. cents	*U.S. cents*	*U.S. cents*	*U.S. cents*
Lamb	Prime Down Cross 29-36 lb.	18.67	18.96	15.12	15.68
Wether mutton	Prime 49-56 lb.	10.50	10.50	8.40	8.40
Ewe mutton	Prime 49-56 lb.	7.58	7.58	6.16	6.16
Chilled beef	Ox 680 lb. and under	17.50	18.67	14.90	16.80
Ox and heifer quarter beef	Good average quality ox, 680 lb. and under	17.50	18.67	14.90	16.80
Quarter cow beef	Good average quality 600 lb. and under	13.42	14.58	11.65	13.44
Boner, cow, ox, and heifer	301 lb. and over[1]	16.92	21.00	[2]17.92	[2]20.16
Boner bull[3]	521 lb. and over[1]				
Veal (sides or quarters)	Under 280 lb.	14.00	16.33	13.10	13.44
Porkers	Prime 60 to 100 lb.	18.67	21.00	16.80	16.80
Baconers	Prime 111 to 140 lb.	16.33	21.00	16.80	16.80

[1] Boned-out value. [2] All weights. [3] 551 pounds and over beginning 1968.

Source: New Zealand Meat Producer Board, *Annual Report and Statement of Accounts.*

Under the deficiency payment system, 11 basic grades (one for each type of meat) are used in announcing floor prices. The payment is made, however, on all grades in each class of meat. None have been made since 1962.

Grading

Meat for domestic consumption is graded by officers of the Meat Inspection Service in slaughterhouses, and by employees under the supervision of meat inspectors in meat export plants. All grading is done according to specifications established by the New Zealand Standards Institute. Beef and mutton have four grades (first, second, third, and manufacturing). Veal, pork, and lamb have three grades (first, second, and manufacturing). Hoggets (older lambs) have only one grade (first).

The grade is indicated by a series of colored stripes placed on the carcasses, red to indicate first quality; blue, second; yellow, third; and chocolate, manufacturing. The New Zealand Meat Producer's Board has the responsibility of supervising the grading of all meat that moves into export channels.

Beef and veal are graded for export according to age, quality, weight, and condition. As used in connection with grading, the term G.A.Q. stands for good average quality, and F.A.Q. indicates fair average quality. Following are the various marks used by export plants to indicate the grade, weight, and condition of the product:

Beef	*Grade mark*
G.A.Q. ox and heifer	
ex bodies:	
640 lb. and under	1
641-720 lb.	2
721-800 lb.	3
801 lb. and over	4
F.A.Q. ox and heifer	
ex bodies, all weights	X
G.A.Q. cow beef	
ex bodies, all weights	C
F.A.Q. cow beef	
ex bodies, all weights	CX
Veal:	
Prime, all weights	V
Second quality, all weights	VX

Lamb is defined as meat derived from ovine of either sex under 12 months of age at date of slaughter. Most of the lamb exported comes from animals between the ages of 4 and 6 months.

Mutton is graded as either hogget, wether mutton, or ewe mutton. Hogget is meat derived from ovines beyond lamb classification which are wethers or maiden ewes showing not more than two permanent incisor teeth at time of slaughter. Carcasses exceeding 56 pounds are classified as wether or ewe mutton, whichever is applicable. Wether mutton is meat derived from either a castrated male ovine showing no ram characteristics or a maiden ewe. Ewe mutton is meat derived from female ovine which have lambed.

Inspection

Meat inspection in New Zealand is conducted by the Meat Division of the Department of Agriculture. At present, the service has about 1,000 employees, including 53 full-time veterinarians. To become a fully qualified meat inspector, the apprentice is subject to a two-year training period and before final appointment must pass an examination specified by statute. Inspection in each plant is controlled by a supervising meat inspector who generally has one or two senior inspectors on his staff. The overall supervision of inspection work at each plant is the responsibility of a Government veterinarian who must see to it that the highest standards of hygiene and inspection are enforced at all times.

Lamb and mutton: Grade marks for export

Type and weight	Grade mark	Type and weights	Grade mark	Type and weight	Grade mark
Lamb:		Mutton:		Mutton (continued):	
Prime:		Prime wethers and maiden ewes:		Prime ewes:	
20-28 lb.	D	48 lb. and under	1	48 lb. and under	1E
29-36 lb.	2	49-56 lb.	7	49-56 lb.	7E
37-42 lb.	8	57-64 lb.	3	57-64 lb.	3E
43-50 lb.	4	65-72 lb.	9	65-72 lb.	9E
51-56 lb.	T	73-80 lb.	5	73-80 lb.	5E
Second quality[1]	Y	81 lb. and over	0	81 lb. and over	0E
		Second quality[1]	X	Second quality[1]	XE

[1] May be graded by exporters according to weights.

INDUSTRY ORGANIZATIONS

The Meat Producers Board

The New Zealand Meat Producers Board was established under the Meat Export Control Act of 1922 and was given wide statutory powers to organize and coordinate New Zealand's meat export trade. The functions performed by the board include: (1) fostering healthy competition for producers' products, (2) maintaining standards of quality, (3) allocating shipping space, (4) world-wide promotional activities, (5) administering a minimum price scheme for export meat and (6) maintaining a market information service for producers and others.

Although the board does not trade in meat, it is the central agency where all matters affecting the welfare of the meat industry of New Zealand are given constant attention.

Headquarters for the meat board are in Wellington, New Zealand, and offices are maintained in the United Kingdom, the United States, and Japan. Also, close contact with the meat trade is maintained by the board through the New Zealand Government Trade Commissioner Service in many countries.

The Meat Export Control Act authorizes the board to impose a levy on all meat exported to enable it to perform its functions. This levy today stands at about 0.1 U.S. cent per pound of meat exported.

The Meat Export Development Company

As part of an overall plan to develop new markets, the New Zealand Meat Producers Board was given power in 1959 to export meat to countries that showed prospects of becoming better or future markets. In 1960, the Meat Export Development Company was formed to assist in promotional activity connected with exports. Shareholders in this company are the freezing companies trading in New Zealand. The Meat Board although not a shareholder, does have a representative on the board of directors. Together with the Meat-Board, the Meat Export Development Company has the responsibility of developing the lamb market in North America.

The Meat Board's most important function in the operation of the Meat Export Development Company, commonly called "Devco", is the guarantee which the Board gives to the company to absorb any losses experienced in selling meat in the North American market. In its first 8 years of operations, Devco incurred losses amounting to about US$13 million.

For the trading year ending September 30, 1969, Devco made a profit of nearly US$1.3 million on the procurement of 947,000 lambs. Devco allotted US$560,000 of their 1968-69 budget for repayment to the Meat Board, which represents an initial payment approximately equal to the 1967-68 operating losses.

Devco was created in the realization that the North American market offered the best prospects for market diversification and for further development as a major outlet if a decline occurred in exports of lamb to the United Kingdom. The diversification program contributed to firmer prices in the United Kingdom, and resulted in some criticism of Devco for the diversion of lamb from the United Kingdom to North America.

In early 1970, North American prices for New Zealand lamb were comparable to those prevailing in the United Kingdom. New Zealand currently receives more foreign exchange per pound of lamb from Devco sales, because of the additional processing of lamb destined for the North American market. Devco originally planned an appreciable increase in procurements in 1970 for North America; but their goal had to be lowered due to labor difficulties, with resultant shortages of supply from New Zealand, combined with firm prices for lamb in the United Kingdom. Nevertheless, Devco anticipates a continuing expansion for New Zealand lamb in the North American market.

The Wool Board

The New Zealand Wool Board was established by authority of the Wool Industry Act of 1944. The functions of the Board are: (1) to promote the use of New Zealand's wool; (2) to promote research in relation to wool or sheep; (3) to act in conjunction with any similar overseas body for these purposes; and (4) to exercise the functions mentioned in relation to the production, handling, pooling, appraising, storage, distribution, marketing, and disposal of wool as may be conferred by the Wool Industry Act. The Wool Board also has the authority to work in conjunction with the meat and/or dairy boards in carrying out any project considered beneficial to the wool industry.

The Wool Commission

The New Zealand Wool Commission is a statutory body established by the Wool Commission Act of 1951. It consists of seven members appointed by the Governor General on the recommendation of the Minister of Agriculture. All members of the Commission are appointed for a term of 3 years and may from time to time be reappointed. The principal function of the Commission is to insure minimum prices for New Zealand wool sold either in New Zealand or the United Kingdom at auction sales approved by the Commission. At any auction sale where wool is not bid for by a commercial buyer at more than a set floor price, the Commission is authorized to buy the wool at the floor price. The Commission then holds the wool off the market until such time as the market prices rise—generally the following season. The wool is then presented for auction in New Zealand or London.

The sharp decline in demand for crossbred wools during the 1966-67 season resulted in the Commission supporting the market to a greater extent than any previous season. Bids were made on more than 50 percent of the wool offered at auction sales in New Zealand, and 613,330 bales (approximately 36 percent of the total) was purchased by the Commission. New Zealand wools offered on the London auction also were supported and appreciable quantities purchased.

In order to add stability to the wool market, the Commission announced prior to the opening of the 1967-68 season that none of the 1966-67 stocks would be sold. The Commission purchased an additional 60,000 bales early in the season, but 16,800 bales of the 1967-68 purchase were sold late in the season.

Prior to the opening of the 1968-69 season the Commission again, in an effort to add stability to the market, announced that 100,000 bales of stockpile wool would be sold. In addition, a new minimum floor price support program was announced whereby the bid price was reduced to insure that wool would move directly into trade channels. Producers who sold below the minimum floor (support) price were paid supplementary payments. In addition to moving the new clip wool directly into marketing channels, the new program enabled the Commission to sell 207,192 bales of stockpile wool during the 1968-69 season. However, the Commission still held 480,074 bales of wool at the end of the season.

THE EXPORT MARKET

Receipts

Receipts from all livestock products have been swinging upward and in 1968 totaled US$863 million, compared with $657 million in 1954. Meat receipts were largest in 1968, totaling $315 million, followed by income from wool which totaled $199 million.

The economic stability of New Zealand's livestock and meat industry also depends to a considerable degree on the sale of byproducts in both domestic and world markets. Surplus production of many byproduct items which are sold for export add considerably to New Zealand's overall export earnings. For example, in 1968 export receipts for sheep skins and pelts totaled US$36 million; hides and skins, $11 million; sausage casings, $14 million; tallow, $9 million; and other meat byproducts, $7 million.

Meat

Exports of meat were 1.4 billion pounds, product weight, in 1969, compared with 0.9 billion pounds for the 1956-60 average. In terms of product weight, the largest increases have occurred in mutton and lamb. However, proportionally more of the beef and veal exports have been boneless since the United States became New Zealand's major market for beef.

The United Kingdom is, by far, the major market for New Zealand's exports of total meat and meat products. In 1969, although New Zealand meat was shipped to about 40 different countries, exports to the United Kingdom accounted for 58 percent of the total, followed by the United States, 15 percent, and Japan, 14 percent.

Export income from livestock industry, annual 1954 and 1965-68[1]

Commodity	Year ending June 30					Changes in export income 1954-1968	
	1954	1965	1966	1967	1968	Increase	Percent of total increase
	Mil. U.S. dols.	*Mil. U.S. dols.*	*Mil. U.S. dols.*	*Mil. U.S. dols.*	*Mil. U.S. dols.*	*Mil. U.S. dols.*	*Percent*
Meat	152.9	298.2	304.4	291.2	314.5	161.6	78.6
Wool	252.6	304.4	343.8	255.5	198.9	-53.7	-26.1
Sheepskins and pelts	20.2	34.3	41.7	37.1	36.4	16.2	7.9
Sausage casings	7.3	18.5	17.6	17.1	13.7	6.4	3.1
Tallow	5.6	11.8	10.9	12.2	8.7	3.1	1.5
Hides and skins	8.6	11.5	13.7	14.1	11.3	2.7	1.3
Meat byproducts	1.1	4.8	5.0	6.7	7.0	5.9	2.8
Livestock	.8	2.2	4.2	2.5	4.8	4.0	1.9
Butter	129.4	155.4	149.5	166.2	131.8	2.4	1.2
Cheese	57.7	61.9	68.0	75.9	55.6	-2.1	-1.0
Milk powders	17.4	29.1	39.8	53.2	53.3	35.9	17.5
Casein	3.6	26.6	26.6	23.0	26.8	23.2	11.3
Total[2]	657.2	958.2	1,025.6	954.7	862.8	205.6	100.0

[1] Note: US$2.80 = NZ$1 until July 10, 1967; US$1.40 = NZ$1 until November 21, 1967; and US$1.12 = NZ$1 from November 21, 1967. [2] Due to rounding, figures may not add to totals shown.

Source: New Zealand Government, *Annual Review of the Sheep Industry, 1967-68*, Publication 1436, August 1968.

The importance of the U.K. market is indicated by the following data on percentages of various New Zealand meat exports going to the U.K. in 1967-68 and 1968-69:

Item	*1967-68* *Percent*	*1968-69* *Percent*
Lamb	88	87
Mutton	25	22
Beef	7	10
Pig meats	50	--
Offals	77	73
All edible meat	58	56

Shipments of meat by air from New Zealand, although still small, have shown substantial gains recently. Practically all of this trade is in beef flown to Tahiti, Singapore, Hong Kong, Fiji Islands, New Caledonia, Malaysia, and Australia, with small amounts going to Greece.

After Commonwealth commitments for beef and veal exports to the United Kingdom were removed in the late 1950's, shipments of these meats to the United States increased from both New Zealand and Australia. As a result, in 1964 the U.S. Congress passed the Meat Import Law (PL-88-482) which encompassed a market-sharing arrangement between domestic and imported supplies of fresh, chilled, or frozen beef, veal, mutton, and goat meat.

Since 1964, New Zealand's exports of those meat products (and identical imports from other suppliers) to the United States would have been subject to quotas if the U.S. supply situation warranted such action. U.S. legislation provides for the imposition of quotas on imports of these meats if estimates made by the Secretary of Agriculture indicate that imports during any calendar year are likely to equal or exceed the trigger level as set forth in the law. The law provides for the growth of imports in the same proportion as the growth in domestic production. The growth rate is the increase in U.S. commercial production for a 3-year period (current year, plus the two preceding years) over the average for the base period (1959-63). The adjusted annual base import quota is calculated by multiplying the growth rate times imports during the 1959-63 base period—725,400,000 pounds. The trigger point for the imposition of quotas is reached when the Secretary estimates imports are likely to equal or exceed the adjusted annual import quota level, plus 10 percent. The adjusted annual base import quota for 1970 was about 37 percent greater than imports during the 1959-63 base period. The U.S. estimate of commercial production for 1970 represents an increase of about 40 percent over the 1959-63 average.

Import quotas have not been operative since the enactment of the law. However, voluntary restraint programs have been in effect since October 1968. Between October 1968 and June 29, 1970, supplying countries agreed to limit their shipments to the United States in order to maintain the level of imports below the trigger level. During this period, imports exceeded the adjusted annual base quota levels, but the voluntary restraint programs maintained imports below the trigger level.

Meat exports, averages 1956-60 and 1961-65, annual 1966-69[1]

Type	Averages		1966	1967	1968	1969
	1956-60	1961-65				
	Mil. lb.	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*
Fresh, chilled or frozen:						
Beef and veal	243	254	241	245	275	330
Mutton	146	177	180	191	235	303
Lamb	504	612	650	659	694	723
Pork	12	7	6	1	3	1
Edible offals	39	51	61	67	59	85
Total	944	1,101	1,138	1,163	1,286	1,442
Canned meats	9	7	8	8	8	[2]8
Total meats	953	1,108	1,146	1,171	1,294	1,450

[1] Year ending September 30. [2] Estimated.

Meat, fresh, frozen or chilled: Exports by product weight, year ending September 30, 1969

Country of destination	Lamb	Mutton	Beef and veal	Pork	Edible offals	Total
	Mil. lb.	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*
United Kingdom	631	65	32	--	62	790
United States	23	([1])	191	--	1	215
Japan	9	217	6	([1])	3	235
Canada	11	3	55	--	1	70
West Indies	3	4	13	([1])	4	24
Greece	15	4	([1])	--	1	20
EEC:						
Germany, West	2	3	([1])	--	([1])	5
Other EEC	6	1	2	--	8	17
Other countries	23	6	31	1	5	66
Total	723	303	330	1	85	1,442

[1] Less than 500,000 pounds.

Import quotas were invoked for the first time on June 29, 1970, but simultaneously suspended; and a new restraint level was established at 1,140 million pounds which exceeded the 1970 trigger level by 41.3 million pounds. This action was determined by overriding economic interests of the United States, but gave special weight to the importance to the nation of the economic welfare of the domestic industry.

Wool

New Zealand wool exports totaled 714 million pounds, actual weight, in 1969. The major type shipped was classified in the "46/50's and coarser" category. As usual, the United Kingdom continued as the major market, taking 144 million of the 714 million pounds exported. France and the United States were also sizeable importers, taking 88 and 102 million, respectively. Trade with Japan increased in 1969, totaling 66 million pounds, compared with 49 million in 1968.

Wool exports: Averages 1956-60 and 1961-65, annual 1966-69

Country of destination	Averages		1966	1967	1968	1969
	1956-60	1961-65				
	Mil. lb.	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*
United Kingdom	165	143	137	112	140	144
France	88	90	94	55	95	102
United States	63	79	100	67	94	88
Japan	14	32	70	38	49	66
Germany, West	34	36	35	28	43	56
Belgium	27	45	46	22	39	63
Italy	22	34	32	30	34	50
USSR	6	4	26	10	30	36
Netherlands	11	16	16	19	29	21
China (Mainland)	5	5	10	17	15	6
Australia	5	3	4	5	8	9
Canada	4	5	8	6	7	8
Portugal	2	4	5	5	6	5
Poland	10	5	2	3	5	7
Czechoslovakia	6	3	4	4	4	6
Sweden	2	3	3	3	3	3
Other countries	10	46	32	29	46	44
Total	474	553	624	453	647	714

Hides and skins

New Zealand's cattle hide and calf skin exports totaled 64 million pounds in 1969. Italy, taking 27 million pounds, was the chief market, and was followed by Japan, the United Kingdom, West Germany, China, Australia, and Poland.

The United States is the major export market for New Zealand's lamb pelts. France, Italy, and Spain are the principal export markets for wooled skins.

Exports of cattle hides and calf skins, 1964-69[1]

Country of destination	1964	1965	1966	1967	1968	1969
	Mil. lb.	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*
Italy	19.7	14.5	13.5	15.6	20.5	27.1
Japan	4.7	2.5	6.6	5.5	8.8	8.3
Germany, West	4.6	6.9	3.7	5.2	5.4	5.0
United Kingdom	2.8	6.4	5.3	3.4	5.2	3.7
China (Mainland)	0.1	0.6	1.8	1.6	3.4	0.5
Australia	3.5	1.8	1.6	1.1	2.6	2.1
Poland	2.5	2.8	3.4	3.4	2.5	1.5
Spain	1.1	1.8	1.7	1.6	2.0	2.6
Netherlands	1.8	3.2	3.1	1.5	1.3	5.0
Greece	0.1	1.0	0.7	1.1	0.9	1.2
France	0.3	0.3	0.3	0.2	0.7	0.3
Denmark	0.1	0.3	1.6	1.2	0.7	1.8
Norway	1.3	1.3	0.8	1.3	0.6	0.8
Finland	0.1	0.2	0.4	0.3	0.3	–
Bulgaria	–	–	–	–	0.3	0.3
Portugal	0.1	0.2	0.1	0.1	0.3	0.2
Israel	0.1	–	0.1	–	0.2	–
Turkey	0.2	–	0.1	–	0.2	0.1
Czechoslavakia	–	–	0.1	0.2	0.1	0.1
Malaysia	–	0.1	0.1	0.2	0.1	0.3
Sweden	0.2	0.4	0.2	0.4	0.1	0.1
Other countries	6.1	4.7	1.0	0.7	1.0	3.1
Total	49.4	49.0	46.2	44.6	57.2	64.1

[1] Year ending June 30.

Exports of sheep and lamb skins, 1964-69[1]

Commodity	1964	1965	1966	1967	1968	1969
	1,000 lb.	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*
Wooled:						
Lambskins	27	34	36	–	47	22
Sheepskins:						
France	5,416	3,770	4,661	2,923	3,947	3,662
Italy	941	681	970	1,149	656	540
Spain	1,378	1,458	2,009	849	1,550	2,406
Other countries	667	1,225	471	260	1,378	383
Total	8,402	7,134	8,111	5,181	7,531	6,991
Split skins	562	474	340	293	325	320
Other:	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*
Lamb pelts:						
United Kingdom	1,900	2,743	1,858	2,586	2,939	4,390
France	1,054	344	183	1,267	3,593	2,994
Italy	–	6	–	867	567	65
Germany, West	820	135	460	172	168	322
United States	18,629	16,629	17,711	14,853	17,926	16,554
Other countries	480	949	455	1,534	1,952	1,755
Total	22,883	20,806	20,667	21,279	27,145	26,083

[1] See footnote at end of table.

Exports of sheep and lamb skins, 1964-69[1] –(Continued)

Commodity	1964	1965	1966	1967	1968	1969
	1,000 pieces	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*
Sheep pelts:						
United Kingdom	2,626	2,243	1,514	1,809	1,809	2,995
Belgium	1,820	1,918	1,733	3,386	2,288	3,046
Italy	455	358	299	290	447	888
Netherlands	1,383	1,229	1,310	1,740	1,875	2,140
United States	259	295	385	60	576	291
Other countries	407	216	318	216	1,388	705
Total	6,950	6,259	5,559	7,501	8,383	10,065

[1] Year ending June 30.

Tallow

Exports of tallow from New Zealand have been averaging about 150 million pounds per year. The United Kingdom is the major market, generally taking about one-third of the total tallow exports. In recent years, most of the balance has been moving to Mainland China, Japan, the Republic of South Africa, and Malaysia.

Exports of tallow, edible and inedible, average 1963-65, annual 1965-69[1]

Country of destination	Average 1963-65	1965	1966	1967	1968	1969[2]
	Mil. lb.	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*
EC:						
Netherlands	2	4	4	6	8	20
France	([3])	1	--	--	--	4
Germany, West	1	1	1	--	([3])	2
Other	1	2	1	1	([3])	([3])
Total EC	4	8	6	7	8	26
Japan	13	15	11	18	23	24
United Kingdom	35	45	22	26	19	19
Burma	5	3	3	8	9	14
China, Mainland	24	12	26	12	23	12
South Africa, Republic of	13	11	14	21	15	11
Malaysia	8	10	3	11	10	9
Mozambique	3	4	3	6	6	8
Philippines	1	2	3	5	3	6
Ceylon	5	1	1	1	2	4
Singapore	1	--	2	5	9	4
West Indies Federation	4	3	3	5	4	4
Mauritius	([3])	--	--	1	3	4
Kenya	3	4	2	1	7	3
Tanzania	([3])	([3])	1	2	1	3
Australia	([3])	1	4	3	5	2
Thailand	([3])	--	([3])	([3])	([3])	2
India	7	3	([3])	8	6	1
Other countries	15	8	10	6	12	3
Total	141	130	114	146	165	159

[1] Year ending June 30. [2] Preliminary. [3] Less than 500,000 pounds.

Competition With U.S. Producers

New Zealand's latest Agricultural Development Program is expected to bring about substantial gains in livestock numbers as well as in production of beef, veal, mutton and lamb, over the next decade. The program will continue to stress such projects as land development, tax deductions to encourage capital investment, increased use of aerial topdressing, irrigation, and transportation developments. This means that New Zealand will continue to offer competition to U.S. livestock and meat producers. As in the past, this competition will come mostly from boneless manufacturing meats such as those coming from lower-grade cows and bulls. However, the largest percentage increase is likely to occur in lamb.

Although part of the expansion in meat production will move into domestic consumption channels, increased exports are also forecast, primarily to the United States and Japan.

Livestock producers in New Zealand and the United States will continue to compete in world markets with such livestock product items as cattle hides, calfskins, variety meats, and tallow and greases.

Most of the wool imported from New Zealand by the United States is carpet wool, which enters duty-free.

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